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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,759	10/30/2003	Takushi Yokoyama	0425-1062P	6887
2292 7590 12/31/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER FELTON, AILEEN BAKER	
			ART UNIT 1793	PAPER NUMBER
			NOTIFICATION DATE 12/31/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

**Office Action Summary**

Application No.

10/695,759

Applicant(s)

YOKOYAMA ET AL.

Examiner

Aileen B. Felton

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8-24 and 27 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6, 8, 9 and 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-15, 19-24 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 12-14, 22-24, 27 are rejected under 35 U.S.C. 102(b) as being by Tateno (5013782).

Tateno discloses a composition that generates gas that comprises phosphate glass from 5-200 parts (col. 4 and Table in col. 6), an elastomer such as silicone (col. 3, lines 16-40), polyvinyl chloride as fuel (col. 2, lines 35-45), and oxidizers such oxides (col. 5, lines 5-25), additive such as calcium stearate (col. 5, lines 30-52), and aluminum hydroxide from 5-100 parts (col. 5, lines 10-25).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 10-15, 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (2004000362) in view of Lyon (5460668) and Tateno (5013782).

Sato et al discloses a gas generating composition comprising sodium carboxymethylcellulose from .5-5 % as a binder (para 0036), aluminum hydroxide from 0-10 % (para 0038), basic copper nitrate from 30-70 % (para 0019), guanidine nitrate from 40-60 % (para 0040), copper oxide from 0-10 % (para 0038).

Lyon teaches that it is known to use glass as a slag trap in gas generating compositions and indicates that many types of glass can be used and should have a softening point of around 590 Celsius.

Tateno teaches that phosphate glass has a softening point ranging from 400-800 Celsius (col. 5, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass as taught by Lyon since Lyon teaches that it is known for use as a slag trap with gas generating compositions and to use phosphate glass as taught by Tateno since Tateno suggests that it has a softening point from 400-800 and since Lyon indicates that glasses that have a softening point around 590 Celsius are desirable for use as slag traps and since Sato discloses the use of conventional slag traps (para 0034).

5. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (2004000362) in view of Lyon (5460668) and Tateno (5013782) as applied to claims 1-4, 10-15, 19-24 above, and further in view of Kishi et al (4021275).

Kishi teaches the use of silicon dioxide with surface area of 50-450 m<sup>2</sup>/g as a slag trap for a gas generating composition (col. 4, lines 14-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the silicon dioxide as taught by Kishi since Kishi teaches that it is a known slag trap for use with gas generating compositions and since Sato discloses the use of conventional slag traps (para 0034).

***Response to Arguments***

6. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen B. Felton whose telephone number is 571.272.6875. The examiner can normally be reached on Monday-Friday 6:30-4:00, except alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571.272.1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aileen Felton/  
Primary Examiner  
Art Unit 1793